



Australian Government

PMA20113 Certificate II in Process Plant Operations

Release 3

PMA20113 Certificate II in Process Plant Operations

Modification History

Release 3 - inclusion of 1 new elective in Group A and 2 new electives in Group B.

Description

The PMA20113 Certificate II in Process Plant Operations has been developed as a technical qualification for use in the PMA08 Chemical, Hydrocarbons and Refining Training Package.

Job roles/employment outcomes

The PMA20113 Certificate II in Process Plant Operations is intended for competent operators who operate production equipment or undertake similar roles directly producing products. The operator would apply a breadth and depth of knowledge to a defined range of situations and would be expected to apply this knowledge to solve a defined range of problems by applying known solutions to a limited range of predictable problems.

Other non-technical Certificates II are available for production support employees at this level, such as MSA20107 Certificate II in Process Manufacturing. This certificate should be used where the job requirements do not allow for the development of competency in sufficient technical units of competency. The MSA21108 Certificate II in Competitive Manufacturing is also available for employees at this level where the job requires sophisticated manufacturing practice skills rather than technical skills.

Application

This qualification is typically used to prepare new employees or develop existing workers performing an operational role in the chemical, hydrocarbons or refining sectors.

Operators may specialise in one of the following sectors:

- fine chemicals
- heavy chemicals
- petrochemicals
- polymer manufacture
- hydrocarbon extraction
- hydrocarbon transmission
- hydrocarbon processing/refining
- minerals processing/refining
- metalliferous processing/refining
- metals smelting/processing
- other related areas.

Specialisations must be reflected by the selection of units identified for specialised streams.

Training programs for this qualification are suitable to be undertaken as part of a formal training contract with an employer under an Australian Traineeship or Apprenticeship arrangement.

Pathways Information

Pathways into the qualification

This qualification may be accessed by direct entry. Credit may be granted towards this qualification by those who have completed MSA10207 Certificate I in Process Manufacturing in the MSA07 Manufacturing Training Package or other relevant qualifications. Credit for this qualification may also include units contained within relevant Skill Sets.

Pathways from the qualification

Further training pathways from this qualification include PMA30113 Certificate III in Process Plant Operations, MSA30107 Certificate III in Process Manufacturing, MSA31108 Certificate III in Competitive Manufacturing, MSA30208 Certificate III in Manufacturing Technology or other relevant qualifications.

Additional qualification advice

An industry specialisation should include a range of units (typically production or other units relevant to the specialisation) that focus more on the industry speciality than a generic qualification.

An industry specialisation does not change the title of the qualification although RTOs may choose to record the specialisation.

MSA20107 Certificate II in Process Manufacturing from the MSA07 Manufacturing Training Package is available for production support employees at this level and should be used where the job requirements do not allow for the development of competency in sufficient technical units of competency.

MSA21108 Certificate II in Competitive Manufacturing is available for employees at this level who already possess technical skills and who require additional manufacturing practice skills above those available in this qualification.

Licensing/Regulatory Information

There are no specific licences that relate to this qualification. However, in some jurisdictions some units in this qualification may have licensing or regulatory requirements. Local regulations should be checked for details.

Entry Requirements

Not applicable.

Employability Skills Summary

Employability Skill	Industry/enterprise requirements for this qualification include:
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Communication	• complete logs and reports • use technical information and manufacturer's information • collect, analyse and organise information • communicate ideas and information • effective use of workplace documentation • maintain workplace records
Teamwork	• identify and describe own role and role of other • work within a team • resolve conflicts between team members • teamwork strategies
Problem-solving	• recognise a problem or a potential problem related to a plant item • determine problems needing priority action • refer problems outside area of responsibility to appropriate person, with possible causes • seek information and assistance as required to solve problems • solve problems within area of responsibility related to plant items • follow through items initiated until final resolution has occurred • identify and isolate faults in equipment • use a range of formal problem solving techniques
Initiative and enterprise	• identify the most appropriate equipment/plant item • make adjustments to improve equipment/item performance • anticipate the impact of the process on the product • determine problems needing action • recommend required action • report problems outside area of responsibility • distinguish between causes of faults
Planning and organising	• plan own work requirements • plan scope of equipment/plant item checks • plan and organise activities • identify tasks to achieve team goals • organise allocation of tasks • monitor completion of allocated tasks • organise work according to a production schedule
Self-management	• plan own work requirements from production requests • operate within appropriate time constraints and work standards • select and use appropriate equipment, materials, processes and procedures

Learning

- plan to ensure effective production
- apply workplace procedures
- identify resource requirements, document and monitor
- recognise limitations and seek timely advice
- ask questions to gain information
- identify sources of information to expand knowledge and understanding
- participate in improvement procedures
- participate in development of continuous improvement strategies

Technology

- operation and adjustment of processes
- start up and shut down equipment/plant items
- set up equipment/plant items
- monitor product/process quality
- function and operating principles of equipment, machine components
- maintain workplace records

Packaging Rules

To be awarded the PMA20113 Certificate II in Process Plant Operations competency must be achieved in sixteen (16) units of competency:

- five (5) core units of competency
- eleven (11) elective units of competency chosen as specified below

Note

Where prerequisite units apply, these must be considered in the total number of units chosen.

Core units of competency

Unit code	Unit title
MSAENV272B	Participate in environmentally sustainable work practices
MSAPMOHS110A	Follow emergency response procedures
MSAPMOHS200A	Work safely

MSAPMSUP100A	Apply workplace procedures
MSAPMSUP102A	Communicate in the workplace

Elective units of competency

Select **eleven (11)** units as specified below:

- A minimum of **four (4)** from Group A
- The remainder may be chosen from Groups A, B and C (with a maximum of **five (5)** from Group C) to bring the total number of electives to **eleven (11)**.

Note that **three (3)** of the Group C units can be chosen from other qualifications in this Training Package, other endorsed Training Packages and accredited courses, where those units are available at Certificate II.

Group A - Specialist electives

Unit code	Unit title	Prerequisites
PMAOPS201B	Operate fluid flow equipment	
PMAOPS202B	Operate fluid mixing equipment	
PMAOPS203B	Handle goods	
PMAOPS204B	Use utilities and services	
PMAOPS205B	Operate heat exchangers	
PMAOPS208B	Operate chemical separation equipment	
PMAOPS210B	Operate particulates handling equipment	
PMAOPS211B	Operate manufacturing extruders	
PMAOPS213B	Package product/material	
PMAOPS216B	Operate local control system	
PMAOPS217B	Operate wet milling equipment	

PMAOPS220B	Monitor chemical reactions in the process	
PMAOPS221B	Operate and monitor prime movers	
PMAOPS222B	Operate and monitor pumping systems and equipment	*
PMAOPS223B	Operate and monitor valve systems	
PMAOPS224B	Provide fluids for utilities and support	
PMAOPS226A	Monitor and operate flare systems	
PMAOPS230B	Monitor, operate and maintain pipeline stations and equipment	
PMAOPS231B	Control gas odourisation	
PMAOPS232B	Produce product by filtration	
PMAOPS233A	Monitor wells and gathering systems	
PMAOPS234A	Monitor and operate low pressure compressors	
PMAOPS240B	Store liquids in bulk	
PMAOPS241A	Operate Joule-Thomson effect device	
PMAOPS242A	Moor ships for transfer of bulk processed particulates or fluids	
PMAOPS246A	Operate separation equipment	
PMAOPS247A	Operate powered separation equipment	
PMAOPS260A	Conduct screening operations	
PMAOPS261A	Operate bulk solids loading equipment	
PMAOPS262A	Operate digestion equipment	
PMAOPS263A	Operate leaching equipment	
PMAOPS264A	Operate solvent extraction equipment	
PMAOPS265A	Operate magnetic/electrical separation equipment	

PMAOPS280B	Interpret process plant schematics	
PMAOPS290B	Operate a biotreater	
PMASMELT260B	Form carbon anodes	
PMASMELT261B	Bake carbon anodes	
PMASMELT262B	Clean and strip anode rods	
PMASMELT263B	Spray carbon anodes	
PMASMELT264B	Start up reduction cells	
PMASMELT265B	Operate reduction cells	
PMASMELT266B	Deliver molten metal	
PMASMELT267B	Cast aluminium ingots	
PMASMELT268B	Vertical direct casting	
PMASMELT269A	Operate cell tending equipment	
PMASMELT270A	Supply product from reduction cells	
FDFPH2001A	Apply Good Manufacturing Practice procedures	
MEM04001B	Operate melting furnaces	
MSAPMOPS200A	Operate equipment	
MSAPMOPS212A	Use enterprise computers or data systems	
PMC552002C	Operate equipment to blend/mix materials	
PMC552003C	Operate grinding equipment	
PMC552008B	Operate crushing equipment	
PMC562070B	Move materials	
UEPOPS319B	Operate and monitor gas production plant	

One (1) unit may be chosen from Group A in PMA30113 Certificate III in Process Plant Operations

Group B

Unit code	Unit title	Prerequisites
MEM05012C	Perform routine manual metal arc welding	
MEM09002B	Interpret technical drawing	
MEM16005A	Operate as a team member to conduct manufacturing, engineering or related activities	
MSS402002A	Sustain process improvements	
MSS402030A	Apply cost factors to work practices	
MSS402031A	Interpret product costs in terms of customer requirements	
MSS402040A	Apply 5S procedures	
MSS402050A	Monitor process capability	
MSS402051A	Apply quality standards	
MSS402060A	Use planning software systems in operations	
MSS402080A	Undertake root cause analysis	
MSS402081A	Contribute to the application of a proactive maintenance strategy	
MSAPMOHS205A	Control minor incidents	
MSAPMOHS210B	Undertake first response to non-fire incidents	
MSAPMOHS212A	Undertake first response to fire incidents	
MSAPMOHS216A	Operate breathing apparatus	
MSAPMOHS217A	Gas test atmospheres	
MSAPMOHS220A	Provide initial first aid response	
MSAPMPER200C	Work in accordance with an issued permit	

MSAPMPER201A	Monitor and control work permits	
MSAPMPER202A	Observe permit work	*
MSAPMPER205C	Enter confined space	*
MSAPMSUP200A	Achieve work outcomes	
MSAPMSUP201A	Receive or despatch goods	
MSAPMSUP204A	Pack products or materials	
MSAPMSUP205A	Transfer loads	
MSAPMSUP210A	Process and record information	
MSAPMSUP240A	Undertake minor maintenance	
MSAPMSUP280A	Manage conflict at work	
MSAPMSUP291A	Participate in continuous improvement	
MSAPMSUP292A	Sample and test materials and product	
MSL952001A	Collect routine site samples	
PMAOHS211B	Prepare equipment for emergency response	
PMAOHS213B	Undertake fire control and emergency rescue	
PMAOHS214B	Undertake helicopter safety and escape	
PMAOHS215B	Apply offshore facility abandonment and sea survival procedures	
PMAOHS221B	Maintain first aid supplies and records	
PMAOMIR210B	Control evacuation to muster point	
PMASUP236B	Operate vehicles in the field	
PMASUP237B	Undertake crane, dogging and load transfer operations	
PMASUP241B	Maintain pipeline easements	
PMASUP242B	Monitor pipeline civil works	
PMASUP243B	Monitor and maintain pipeline coatings	

PMASUP244A	Prepare and isolate plant	
PMASUP245A	Break and make flanged joints using hand tools	
PMASUP246A	Disconnect and reconnect non-flared tube fitting joints	
RIIOHS204A	Work safely at heights	
RIIRIS201B	Conduct local risk control	
TLID2010A	Operate a forklift	

Group C

Unit code	Unit title	Prerequisites
FDFPH1001A	Follow work procedures to maintain Good Manufacturing Practice	
MEM11011B	Undertake manual handling	
MSAPMOHS100A	Follow OHS procedures	
MSAPMOPS100A	Use equipment	
MSAPMOPS102A	Perform tasks to support production	
MSAPMSUP101A	Clean workplace or equipment	
MSAPMSUP106A	Work in a team	
MSAPMSUP172A	Identify and minimise environmental hazards	
PMAOPS101C	Read dials and indicators	
PMAOPS105C	Select and prepare materials	

Up to **three (3)** relevant units may be selected from this Training Package, other endorsed Training Packages and accredited courses where those units are available at Certificate II.

Custom Content Section

Not applicable.